



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/792,130	03/04/2004	Jeong Dae Seo	K-0619	3916

34610 7590 08/07/2006

FLESHNER & KIM, LLP
P.O. BOX 221200
CHANTILLY, VA 20153

EXAMINER

THOMPSON, CAMIE S

ART UNIT	PAPER NUMBER
----------	--------------

1774

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/792,130

Applicant(s)

SEO ET AL.

Examiner

Camie S. Thompson

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed 5/30/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2 and 4-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's amendment and accompanying remarks filed May 30, 2006 are acknowledged.
2. Examiner acknowledges amended claims 1, 4-5, 7 and 9-10.
3. Examiner acknowledges cancelled claim 3.
4. The objection of claims 1, 3, 5 and 9-10 is overcome by applicant's amended claims 1, 5 and 9-10.
5. The rejection of claims 1-10 under 35 U.S.C. 102(b) as being anticipated by Matasuura et al., U.S. Pre Grant Publication 2005/0064233 is overcome due to applicant's submission of the translation of Korean foreign priority document P10-2003-0020468.
6. The rejection of claims 1-10 under 35 U.S.C. 103(a) as being unpatentable over Enokida et al., U.S. Patent Number 5,759,444 in view Shi et al., U.S. Patent Number 6,465,115 is withdrawn in view of applicant's argument.

Claim Objections

7. Claims 2, 4, 6 and 8 are objected to because of the following informalities: Delete the term "in" in line 1 of claim 2 and insert - - of - -.
Delete the term "luminescent" in line 2 of claim 2 and insert the phrase - - light-emitting --.
Correct the spelling of the term "tritolyphenyl" in line 3 of claim 4.
Correct the spelling of the term "t-butyl" in line 3 of claim 6.
Correct the spelling of the term "chlorine" in line 3 of claim 8.
Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-2 and 4-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1, 2 and 4-9 are rendered indefinite because only one of A1 and A2 needs to be selected from the specified possibilities.

When only one is selected from the specified possibilities, the other of A1 and A2 is not defined.

Claim Rejections - 35 USC § 103

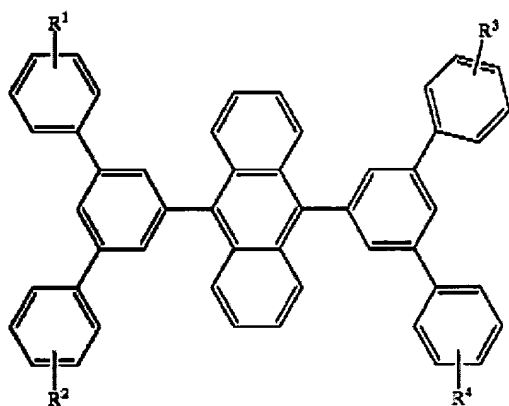
10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

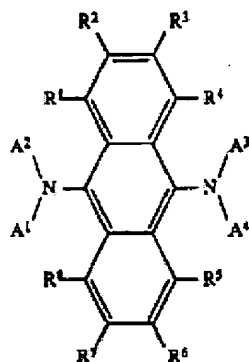
11. Claims 1, 2, 4 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al., U.S. Patent Number 5,972,247 in view Enokida et al., U.S. Patent Number 5,759,444.

Art Unit: 1774

Shi discloses an organic EL device include an anode, a cathode, and an organic light emitting layer that includes an organic material that includes an organic material or a mixture thereof having the structure



wherein the organic material can be used as a host material (see column 2, lines 10-54 and column 20, line 36-column 21, line 7). Shi's material meets the limitations of the host material of chemical formula 2 as required by present claims 1, 2, 4 and 6-10. Column 20, line 47-column 21, line 7 of the Shi reference discloses that fluorescent dyes of various colors can be used to modify the hue of the color emission. Additionally, the Shi reference discloses that green fluorescent dyes can be used. The Shi reference does not disclose the specific green fluorescent dye. Enokida discloses an organic electroluminescent device comprising a light emitting material such as



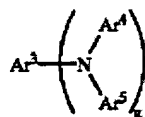
wherein the material provides green light emission (see Enokida examples). Enokida's light emitting material meets the limitations of luminescent material of chemical formula 1 as required by present claims 1, 2, 4 and 6-10. Compounds within the scope of claim 10 are shown in Table 1. Enokida's light emitting material may be used in combination with another light emitting material (see column 25, lines 9-10). The presence of a dopant with a host affects the hue of the light emission as taught by both Shi and Enokida. Shi teaches that blue, green or red emitting fluorescent materials may be used as dopants. Absent a showing of superior/unexpected results commensurate in scope with the present claims, it is the examiner's position that it would have been with the level of skill of one in the art to select suitable dopants from known fluorescent materials. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a green fluorescent material such as taught by Enokida as a dopant in Shi's light emitting layer in order to tune the color of the EL device.

12. Claims 1, 2, 4-6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosokawa et al., U.S. Patent Number 6,534,199.

Hosokawa discloses an organic electroluminescence device that comprises an organic light emitting medium which is disposed between a pair of electrodes wherein the light emitting medium comprises an anthracene derivative and a mono-, di-, tri- or tetrastaryl derivative

Art Unit: 1774

containing an amine. The Hosokawa reference discloses anthracene derivatives EM 22 and EM23 which read on instant compounds H-11 and H-18 (see column 14). Hosokawa also discloses a styryl derivative with the structure



wherein g is an integer of 1 to 4 and Ar^3 to Ar^5 each represent a substituted or unsubstituted aromatic group having 6 to 40 carbon atoms. Styryl derivatives EM35 and EM36 meet the limitations of the material of chemical formula 1 as required by present claims 1, 2, 4-6 and 9 (see columns 17-18). Enokida's Examples 2 and 3 provide devices in which the light emitting layer comprises EM 22 as a host material and EM 43 and EM44, respectively, as a dopant. It would have been an obvious modification to one of ordinary skill in the art at the time of the invention to use EM35 or EM36 in place of EM43 or EM44 in Examples 2 and 3 since EM35, EM36, EM43 and EM44 are taught for the same purpose. Regarding the present claim recitation of "green" luminescent material for the material of chemical formula 1 versus Hosokawa's recitation of "bluish" light, there is no positive limitation placed on the peak emission wavelength or CIE coordinates provided by the material of formula 1. As is known in the art, "bluish" light encompasses blue-green light.

Response to Arguments

13. Applicant's arguments with respect to the instant claims have been considered but are moot in view of the new ground(s) of rejection.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Matsuura et al., U.S. Patent Number 5,503,910 discloses in Figure 2 and column 3 that "bluish" light encompasses blue-green light.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (571) 272-1530. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena L Dye, can be reached at (571) 272-3186. The fax phone number for the Group is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marie L. Yamnitzky
MARIE YAMNITZKY
PRIMARY EXAMINER

1774

08/02/2006